

A Personalized Learning Platform

Udemy Clone Application

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INTRODUCTION

- Welcome to **Udemy Clone Application**
- A personal learning where users can:
 - Register and create accounts
 - Login and access courses
 - Browse and purchase courses
 - Add reviews for completed courses
 - Track and manage purchased courses

FEATURES OF THE APPLICATION

1. User Registration & Login
2. Course Viewing & Purchase
3. Review and Ratings
4. Secure Payment Options
5. User Dashboard

TECHNOLOGIES USED

- **Programming Language:** Java
- **Database Management:** MySQL, JDBC (Java Database Connectivity)
- **User Input Handling:** Scanner Class
- **Object-Oriented Concepts:**
 - Encapsulation, Inheritance, Polymorphism, Abstraction
- **Design Patterns:**
 - Singleton Pattern (Database Connection)
 - Factory Pattern (Can be applied for object creation)
- **Security Considerations:**
 - Password hashing for authentication
 - Use of Prepared Statements to prevent SQL Injection

CODE STRUCTURE OVERVIEW

- **Main Class:** UdemyCloneApp
- **Other Classes:**
 - User (Handles registration, login, and user data)
 - Course (Displays courses and manages purchases)
 - Review (Handles reviews and ratings)
 - Database (Stores data)
 - PaymentProcessor (Handles payments)

CLASS STRUCTURE OVERVIEW

1. UdemyCloneApp (Main Class)

- Manages the main menu and user interactions.
- Handles user registration, login, and course browsing.

2. UserBase (Abstract Class)

- Defines base attributes for users.
- Contains common user-related methods.

3. User (Extends UserBase)

- Stores user details (ID, name, email, password).
- Manages registration, login, and course tracking.
- Interacts with the Database class for user authentication.

4. Course

- Stores course details (ID, title, domain, description, price, rating).
- Displays course information.
- Handles course purchases.

5. Review

- Allows users to add and view course reviews.
- Stores review details in the database.

6. Payment (Interface)

- Defines the processPayment() method for different payment types.

7. PaymentProcessor (Implements Payment)

- Handles course payment transactions.
- Manages payment methods and discounts.

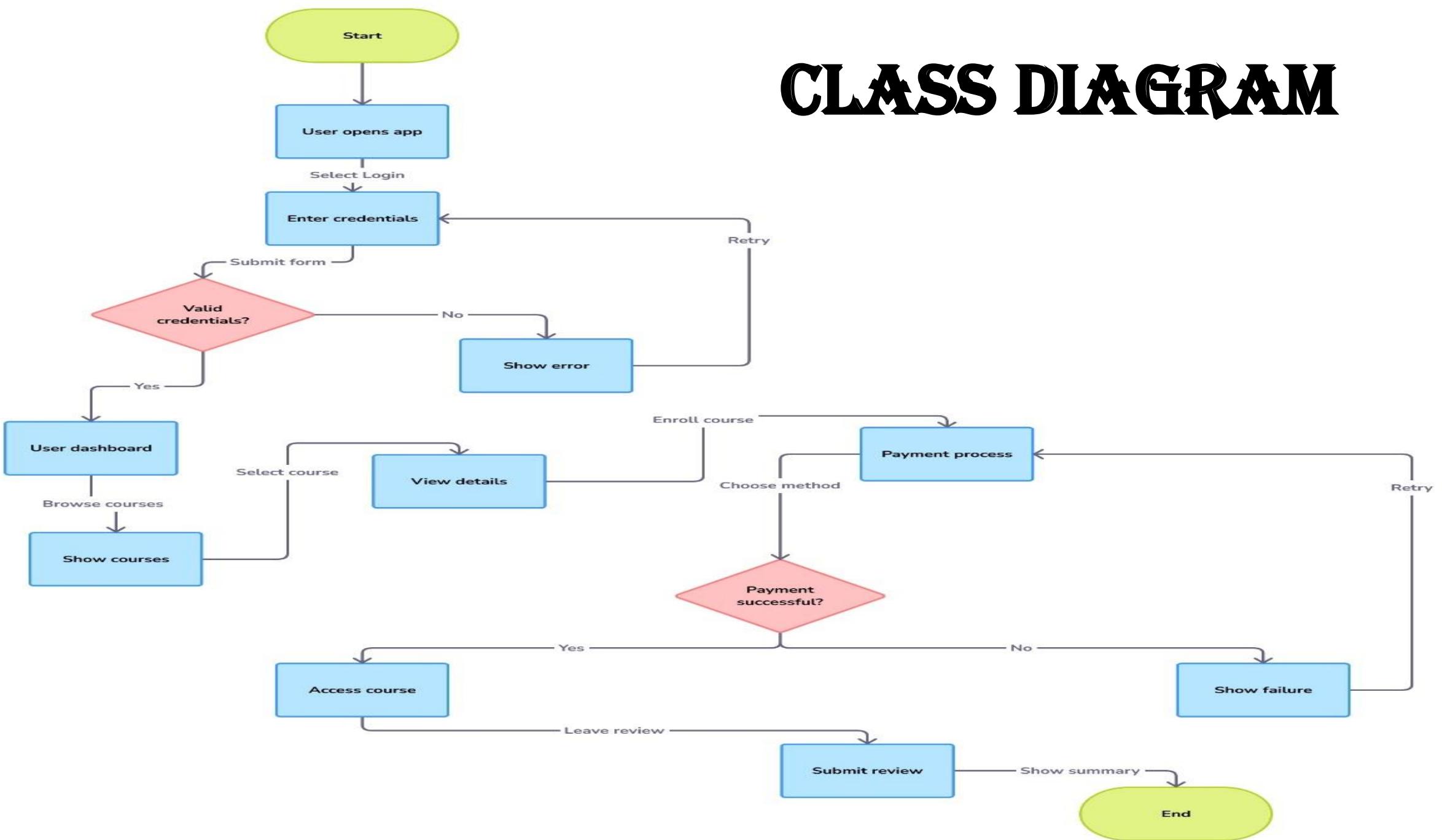
8. Discount

- Retrieves applicable discount values from the database.
- Validates coupon codes.

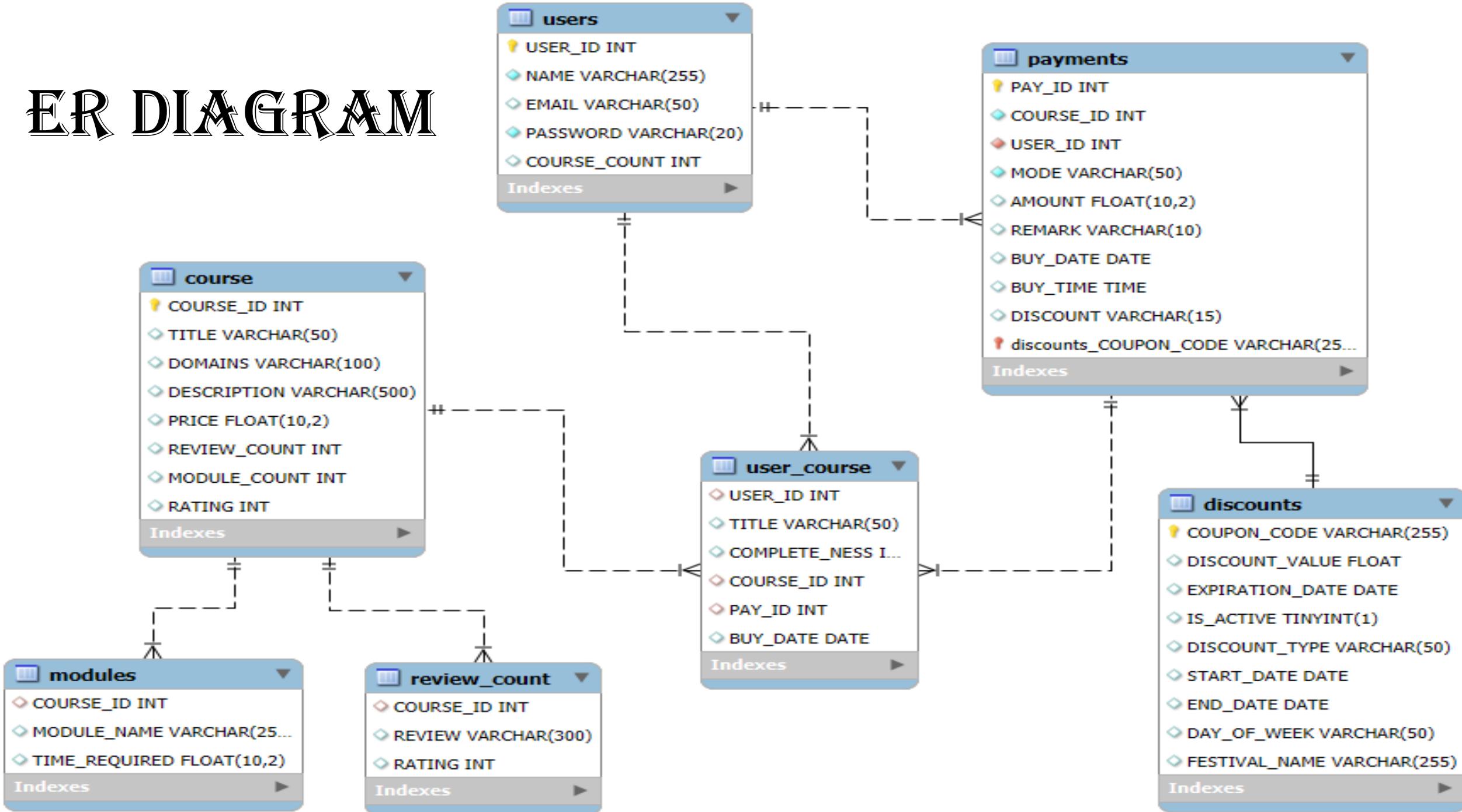
9. Database

- Handles database connections and SQL queries.
- Provides methods for inserting, updating, selecting, and deleting records.

CLASS DIAGRAM



ER DIAGRAM



FUTURE ENHANCEMENTS

- 1. Mobile App Integration:** Expand to mobile platforms for better accessibility.
- 2. Real-time Notifications:** Push notifications for updates and promotions.
- 3. AI-Powered Recommendations:** Personalized course suggestions.
- 4. Advanced Payment Options:** Support for multiple payment methods and cryptocurrencies.
- 5. Live Classes & Webinars:** Real-time streaming of classes and sessions.
- 6. Gamification:** Badges, achievements, and leaderboards.
- 7. Multi-language Support:** Global reach with multi-language options.
- 8. Social Learning:** Forums, groups, and peer interaction.
- 9. Subscription Model:** Unlimited access via subscription.
- 10. AI-assisted Course Creation:** Tools for instructors to generate content.

